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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/550,873	10/28/2005	Satoshi Shirai	125434	1772
25944	7590	12/26/2007	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 320850 ALEXANDRIA, VA 22320-4850			CROUSE, BRETT ALAN	
		ART UNIT	PAPER NUMBER	
		1794		
		MAIL DATE	DELIVERY MODE	
		12/26/2007	PAPER	

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/550,873	SHIRAI ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Brett A. Crouse	1794	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 28 September 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 1-7 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 1-5 and 7 is/are rejected.
- 7) Claim(s) 6 is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>20050928</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|   | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claim 3 recites the limitation "represented by the general formula (1) or (3)" in line 3.

There is insufficient antecedent basis for this limitation in the claim.

Formula (3) is present in claim 2, however, claim 3 as amended depends from claim 1.

Claim 4 recites the limitation "represented by one of the general formula (1) to (3)" in line 3. There is insufficient antecedent basis for this limitation in the claim.

Formula (3) is present in claim 2, however, claim 4 as amended depends from claim 1.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Bisberg et al., Macromolecules, (1995), Volume 28, Number 1, Pages 386-389, hereinafter known as Bisberg.

Bisberg teaches:

As to claims 1, 2, and 4:

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Page 387, column 1, polymers III and IV, teaches fluoranthene polymers and co-polymers. The passage additionally teaches the fabrication of a light emitting diode comprising the polymer/co-polymer in the light emitting layer.

As to claim 5:

Page 387, column 2, teaches the light emitting diode further comprising, an electron injection layer.

Claims 1, 2, 4, and 5 are rejected under 35 U.S.C. 102(b) as being anticipated by Cumming et al., US 5,414,069, hereinafter known as Cumming.

Cumming teaches:

As to claims 1, 2, and 4:

Column 4, lines 26-34, teach an electroluminescent polymer having electroluminescent groups attached to the main chain as side chains.

Column 5, lines 7-10, teach fluoranthenyl groups as a preferred side chain group.

Column 6, lines 29-35, teach the electroluminescent polymer can be a co-polymer.

Column 7, line 59 through column 8, line 24, figures 1 and 2, teach the side chain can include spacer groups.

Column 16, line 61 through column 17, line 59, examples 13 and 14, teach an electroluminescent fluoranthene polymer.

Column 17, line 61 through column 19, line 22, examples 15, 16, 17, teach electroluminescent device fabrication using a glass substrate.

As to claim 5:

Column 8, line 31 through column 9, line 13, teach electroluminescent devices comprising an anode, polymer layer, cathode, and preferably including hole and electron injection layers.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bisberg et al., Macromolecules, (1995), Volume 28, Number 1, Pages 386-389 as applied to claims 1, 2, 4, and 5 above, and further in view of Utsugi et al., US 5,670,792, hereinafter known as Utsugi.

The teachings of Bisberg as in the rejection above are relied upon.

Bisberg teaches:

Page 386, column 1, teaches the use of electroluminescent devices in displays.

Bisberg does not teach:

Bisberg does not teach the application of the electroluminescent devices in a circuit comprising a power supply part and a switching part.

Utsugi teaches:

Abstract, teaches a current controlled luminous element array having a switching transistor and a power source electrode line connected to an electrode of the luminous element.

Column 2, line 49 through column 3, line 3, figure 2, teaches a prior art control circuitry comprising switching transistors and a power supply voltage transmitted to a luminous device.

Column 3, line 65 through column 4, line 21, teaches improved control circuitry comprising switching transistors and a power supply connected to the luminous element via a power source electrode line.

It would have been obvious to one of ordinary skill in the art to use the display circuitry of Utsugi to control the electroluminescent device(s) of Bisberg in order to form an electroluminescent array having less image quality deterioration

Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Cumming et al., US 5,414,069 as applied to claims 1, 2, 4, and 5 above, and further in view of Utsugi et al., US 5,670,792, hereinafter known as Utsugi.

The teachings of Cumming as in the rejection above are relied upon.

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Cumming teaches:

Column 1, lines 17-23, teach electroluminescent devices are useful in displays.

Cumming does not teach:

Cumming does not teach the application of the electroluminescent devices in a circuit comprising a power supply part and a switching part.

Utsugi teaches:

Abstract, teaches a current controlled luminous element array having a switching transistor and a power source electrode line connected to an electrode of the luminous element.

Column 2, line 49 through column 3, line 3, figure 2, teaches a prior art control circuitry comprising switching transistors and a power supply voltage transmitted to a luminous device.

Column 3, line 65 through column 4, line 21, teaches improved control circuitry comprising switching transistors and a power supply connected to the luminous element via a power source electrode line.

It would have been obvious to one of ordinary skill in the art to use the display circuitry of Utsugi to control the electroluminescent device(s) of Cumming in order to form an electroluminescent array having less image quality deterioration

*Allowable Subject Matter*

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Claims 3 and 6 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brett A. Crouse whose telephone number is 571-272-6494. The examiner can normally be reached on Monday - Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Terell H. Morris can be reached on 571-272-1478. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/BAC/ 16 December 2007

*Callie Shasho*  
*Callie Shasho*  
*Supervisory Patent Examiner*